20014_Standard_CANopen_V100

No.	Sub No.	Name	Detection	Level	Comment
0	xx	**No error**			
1		**New software**			
1	01	New software detected after download	OS.NewSWDetected = 1	StatLev0	Default values loaded !
11		**Error analog input, C1p11**			
11	01	Error analog input, C1p11; Config error at .FilterConfig	C1p11.PinStatus; Bit0 = 1	StatLev3	
11	02	Error analog input, C1p11; Input out of range	C1p11.PinStatus; Bit1 = 1	ErrLev6	
11	03	Error analog input, C1p11, Hardware error	C1p11.PinStatus; Bit2 = 1	ErrLev2	
13		**Error general purpose input / output, C1p13**			
13	01	Error general purpose input / output, C1p13; Config error at .PinConfig	C1p13.PinStatus; Bit0 = 1	StatLev3	
13	02	Error general purpose input / output, C1p13; Config error at .DebounceConfig	C1p13.PinStatus; Bit1 = 1	StatLev3	
13	03	Error general purpose input / output, C1p13; Invalid value at .OutputValue	C1p13.PinStatus; Bit2 = 1	StatLev3	
13	04	Error general purpose input / output, C1p13; Overload / output shorted to +I/O supply / transistor damaged	C1p13.PinStatus; Bit3 = 1	ErrLev2	
13	05	Error general purpose input / output, C1p13; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p13.PinStatus; Bit4 = 1	ErrLev2	Only detectable if output = off
13	06	Error general purpose input / output, C1p13; Switched off because overload	C1p13.PinStatus; Bit5 = 1	ErrLev2	
13	07	Error general purpose input / output, C1p13; Switch on protection after overload	C1p13.PinStatus; Bit6 = 1	StatLev3	
13	08	Error general purpose input / output, C1p13; Hardware watchdog error	C1p13.PinStatus; Bit7 = 1	ErrLev2	
13	09	Error general purpose input / output, C1p13; Safety error	C1p13.SafetyStatus = 1	ErrLev2	
14		**Error general purpose input / output, C1p14**			
14	01	Error general purpose input / output, C1p14; Config error at .PinConfig	C1p14.PinStatus; Bit0 = 1	StatLev3	
14	02	Error general purpose input / output, C1p14; Config error at .DebounceConfig	C1p14.PinStatus; Bit1 = 1	StatLev3	
14	03	Error general purpose input / output, C1p14; Invalide value at .OutputValue	C1p14.PinStatus; Bit2 = 1	StatLev3	
14	04	Error general purpose input / output, C1p14; Overload / output shorted to +I/O supply / transistor damaged	C1p14.PinStatus; Bit3 = 1	ErrLev6	
14	05	Error general purpose input / output, C1p14; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p14.PinStatus; Bit4 = 1	ErrLev6	Only detectable if output = off
14	06	Error general purpose input / output, C1p14; Switched off because overload	C1p14.PinStatus; Bit5 = 1	ErrLev6	
14	07	Error general purpose input / output, C1p14; Switch on protection after overload	C1p14.PinStatus; Bit6 = 1	StatLev3	
14	08	Error general purpose input / output, C1p14; Hardware watchdog error	C1p14.PinStatus; Bit7 = 1	ErrLev6	

15		**Error general purpose input / output, C1p15**			
15	01	Error general purpose input / output, C1p15; Config error at .PinConfig	C1p15.PinStatus; Bit0 = 1	StatLev3	
15	02	Error general purpose input / output, C1p15; Config error at .DebounceConfig	C1p15.PinStatus; Bit1 = 1	StatLev3	
15	03	Error general purpose input / output, C1p15; Invalide value at .OutputValue	C1p15.PinStatus; Bit2 = 1	StatLev3	
15	04	Error general purpose input / output, C1p15; Overload / output shorted to +I/O supply / transistor damaged	C1p15.PinStatus; Bit3 = 1	ErrLev6	
15	05	Error general purpose input / output, C1p15; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p15.PinStatus; Bit4 = 1	ErrLev6	Only detectable if output = off
15	06	Error general purpose input / output, C1p15; Switched off because overload	C1p15.PinStatus; Bit5 = 1	ErrLev6	
15	07	Error general purpose input / output, C1p15; Switch on protection after overload	C1p15.PinStatus; Bit6 = 1	StatLev3	
15	08	Error general purpose input / output, C1p15; Hardware watchdog error	C1p15.PinStatus; Bit7 = 1	ErrLev6	
16		**Error general purpose proportional input / output, C1p16**			
16	01	Error general purpose proportional input / output, C1p16; Config error at .PinConfig	C1p16.PinStatus; Bit0 = 1	StatLev3	
16	02	Error general purpose proportional input / output, C1p16; Config error at .DebounceConfig	C1p16.PinStatus; Bit1 = 1	StatLev3	
16	03	Error general purpose proportional input / output, C1p16; Invalid value at .OutputValue	C1p16.PinStatus; Bit2 = 1	StatLev3	
16	04	Error general purpose proportional input / output, C1p16; Invalid value at .DitherAmp	C1p16.PinStatus; Bit3 = 1	StatLev3	
16	05	Error general purpose proportional input / output, C1p16; Output disconnected / output shorted to -I/O / transistor shorted	C1p16.PinStatus; Bit4 = 1	ErrLev6	Only detectable if output = off
16	06	Error general purpose proportional input / output, C1p16; Hardware watchdog error	C1p16.PinStatus; Bit5 = 1	ErrLev6	
19		**Error digital input, C1p19**			
19	01	Error digital input, C1p19: Config error at .DebounceConfig	C1p19.PinStatus; Bit0 = 1	StatLev3	
20		**Error digital input, C1p20**			
20	01	Error digital input, C1p20: Config error at .DebounceConfig	C1p20.PinStatus; Bit0 = 1	StatLev3	
21		**Error digital input, C1p21**			
21	01	Error digital input, C1p21: Config error at .DebounceConfig	C1p21.PinStatus; Bit0 = 1	StatLev3	
22		**Error analog input, C1p22**			
22	01	Error analog input, C1p22; Config error at .FilterConfig	C1p22.PinStatus; Bit0 = 1	StatLev3	
22	02	Error analog input, C1p22; Input out of range	C1p22.PinStatus; Bit1 = 1	ErrLev6	
22	03	Error analog input, C1p22, Hardware error	C1p22.PinStatus; Bit2 = 1	ErrLev2	

23		**Error sensor supply, C1p23**			
23	01	Error sensor supply, C1p23; Overvoltage	C1p23.Volt > + 10% of set value for 5s	ErrLev0	
23	02	Error sensor supply, C1p23; Overvoltage	C1p23.Volt > + 40% of set value	ErrLev0	
23	03	Error sensor supply, C1p23; Undervoltage	C1p23.Volt < - 10% of set value for 5s	ErrLev0	
23	04	Error sensor supply, C1p23; Undervoltage	C1p23.Volt < - 50% of set value for 100ms	ErrLev0	
23	05	Error sensor supply, C1p23; Config error at .PinConfig	C1p23.PinStatus; Bit0 = 1	StatLev3	
23	06	Error sensor supply, C1p23; Supply voltage feedback value out of range	C1p23.PinStatus; Bit1 = 1	ErrLev0	
24		**Error main contactor output, C1p24**			
24	01	Error main contactor output, C1p24; Config error at .PinConfig	C1p24.PinStatus; Bit0 = 1	StatLev3	
24	02	Error main contactor output, C1p24; Invalid value at .OutputValue	C1p24.PinStatus; Bit1 = 1	ErrLev2	
24	03	Error main contactor output, C1p24; Overload / output shorted to +I/O supply / transistor damaged	C1p24.PinStatus; Bit2 = 1	ErrLev2	
24	04	Error main contactor output, C1p24; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p24.PinStatus; Bit3 = 1	ErrLev2	Only detectable if output = off
24	05	Error main contactor output, C1p24; Switched off because overload	C1p24.PinStatus; Bit4 = 1	ErrLev2	
24	06	Error main contactor output, C1p24; Switch on protection after overload	C1p24.PinStatus; Bit5 = 1	StatLev3	
24	07	Error main contactor output, C1p24; Hardware watchdog error	C1p24.PinStatus; Bit6 = 1	ErrLev2	
25		**Error general purpose input / output, C1p25**			
25	01	Error general purpose input / output, C1p25; Config error at .PinConfig	C1p25.PinStatus; Bit0 = 1	StatLev3	
25	02	Error general purpose input / output, C1p25; Config error at .DebounceConfig	C1p25.PinStatus; Bit1 = 1	StatLev3	
25	03	Error general purpose input / output, C1p25; Invalide value at .OutputValue	C1p25.PinStatus; Bit2 = 1	StatLev3	
25	04	Error general purpose input / output, C1p25; Overload / output shorted to +I/O supply / transistor damaged	C1p25.PinStatus; Bit3 = 1	ErrLev6	
25	05	Error general purpose input / output, C1p25; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p25.PinStatus; Bit4 = 1	ErrLev6	Only detectable if output = off
25	06	Error general purpose input / output, C1p25; Switched off because overload	C1p25.PinStatus; Bit5 = 1	ErrLev6	
25	07	Error general purpose input / output, C1p25; Switch on protection after overload	C1p25.PinStatus; Bit6 = 1	StatLev3	
25	08	Error general purpose input / output, C1p25; Hardware watchdog error	C1p25.PinStatus; Bit7 = 1	ErrLev6	
26		**Error general purpose input / output, C1p26**			
26	01	Error general purpose input / output, C1p26; Config error at .PinConfig	C1p26.PinStatus; Bit0 = 1	StatLev3	
26	02	Error general purpose input / output, C1p26; Config error at .DebounceConfig	C1p26.PinStatus; Bit1 = 1	StatLev3	
26	03	Error general purpose input / output, C1p26; Invalide value at .OutputValue	C1p26.PinStatus; Bit2 = 1	StatLev3	
26	04	Error general purpose input / output, C1p26; Overload / output shorted to +I/O supply / transistor damaged	C1p26.PinStatus; Bit3 = 1	ErrLev6	
26	05	Error general purpose input / output, C1p26; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p26.PinStatus; Bit4 = 1	ErrLev6	Only detectable if output = off

26	06	Error general purpose input / output, C1p26; Switched off because overload	C1p26.PinStatus; Bit5 = 1	ErrLev6	
26	07	Error general purpose input / output, C1p26; Switch on protection after overload	C1p26.PinStatus; Bit6 = 1	StatLev3	
26	08	Error general purpose input / output, C1p26; Hardware watchdog error	C1p26.PinStatus; Bit7 = 1	ErrLev6	
27		**Error general purpose proportional input / output, C1p27**			
27	01	Error general purpose proportional input / output, C1p27; Config error at .PinConfig	C1p27.PinStatus; Bit0 = 1	StatLev3	
27	02	Error general purpose proportional input / output, C1p27; Config error at .DebounceConfig	C1p27.PinStatus; Bit1 = 1	StatLev3	
27	03	Error general purpose proportional input / output, C1p27; Invalid value at .OutputValue	C1p27.PinStatus; Bit2 = 1	StatLev3	
27	04	Error general purpose proportional input / output, C1p27; Invalid value at .DitherAmp	C1p27.PinStatus; Bit3 = 1	StatLev3	
27	05	Error general purpose proportional input / output, C1p27; Output disconnected / output shorted to -I/O supply / transistor shorted	C1p27.PinStatus; Bit4 = 1	ErrLev6	Only detectable if output = off
27	06	Error general purpose proportional input / output, C1p27; Hardware watchdog error	C1p27.PinStatus; Bit5 = 1	ErrLev6	
27	07	Error general purpose proportional input / output, C1p27; Safety error	C1p27.SafetyStatus = 1	ErrLev6	
28		**Error encoder supply, C1p28**			
28	01	Error encoder supply, C1p28; Overcurrent	C1p28.FeedbackValue > parameter	ErrLev2	
28	02	Error encoder supply, C1p28; Undercurrent	C1p28.FeedbackValue < parameter	ErrLev2	
28	03	Error encoder supply, C1p28; Current feedback out of range	C1p28.PinStatus; Bit0 = 1	ErrLev2	
30		**Error multi function input, C1p30**			
30	01	Error multi function input, C1p30: Config error at .DebounceConfig	C1p30.PinStatus; Bit0 = 1	StatLev3	
30	02	Error multi function input, C1p30: Hardware watchdog error	C1p30.PinStatus; Bit1 = 1	ErrLev6	
30	03	Error multi function input, C1p30: Hardware configuration error	C1p30.PinStatus; Bit2 = 1	ErrLev2	
31		**Error digital input, C1p31**			
31	01	Error digital input, C1p31: Config error at .DebounceConfig	C1p31.PinStatus; Bit0 = 1	StatLev3	
32		**Error digital input, C1p32**			
32	01	Error digital input, C1p32: Config error at .DebounceConfig	C1p32.PinStatus; Bit0 = 1	StatLev3	
33		**Error digital input, C1p33**			
33	01	Error digital input, C1p33: Config error at .DebounceConfig	C1p33.PinStatus; Bit0 = 1	StatLev3	
34		**Error analog input (Rheo), C1p34**			

34	01	Error analog input, C1p34; ConfigError at .FilterConfig	C1p34.PinStatus; Bit0 = 1	StatLev3	
34	02	Error analog input, C1p34; Input out of range	C1p34.PinStatus; Bit1 = 1	ErrLev2	
34	03	Error analog input, C1p34, Hardware error	C1p34.PinStatus; Bit2 = 1	ErrLev2	
36		**Error power stage**			
36	01	Error power stage: Wrong value at .PWMFreq	PowerStage.Status; Bit0 = 1	StatLev3	
36	02	Error power stage; Power stage overtemperature	PowerStage.Status; Bit1 = 1	ErrLev2	
36	03	Error power stage; Power stage temperature sensor	PowerStage.Status; Bit2 = 1	ErrLev2	
36	04	Error power stage; Overvoltage	PowerStage.Status; Bit3 = 1	ErrLev2	
36	05	Error power stage; Overcurrent	PowerStage.Status; Bit4 = 1	ErrLev2	
36	06	Error power stage; Unprotected mode active	PowerStage.Status; Bit5 = 1	StatLev3	
36	07	Error power stage; Power stage permanently locked because wrong motor data	PowerStage.Status; Bit6 = 1	ErrLev2	
36	08	Error power stage; Power stage permanently locked because HW watchdog error	PowerStage.Status; Bit7 = 1	ErrLev2	
36	09	Error power stage; Power stage permanently locked because current sensor error	PowerStage.Status; Bit8 = 1	ErrLev2	
36	10	Error power stage; Power stage permanently locked because undervolt detection	PowerStage.Status; Bit9 = 1	ErrLev2	
36	11	Error power stage; PCB overtemperature	PowerStage.Status; Bit10 = 1	ErrLev2	
36	12	Error power stage; PCB temperature sensor	PowerStage.Status; Bit11 = 1	ErrLev2	
37		**Error selftest**			
37	01	Error selftest; Error DC-Link circuit	Selftest.Error; Bit0 = 1	ErrLev2	
37	02	Error selftest; Error in Watchdog circuit, operation impossible	Selftest.Error; Bit1 = 1	ErrLev0	
37	03	Error selftest; Short circuit to -V DC-Link	Selftest.Error; Bit2 = 1	ErrLev2	
37	04	Error selftest; Short circuit to +V DC-Link	Selftest.Error; Bit3 = 1	ErrLev2	
37	05	Error selftest; Error in motor wiring or power stage	Selftest.Error; Bit4 = 1	ErrLev2	
37	06	Error selftest; Shorted power output (motor output)	Selftest.Error; Bit5 = 1	ErrLev2	
37	07	Error selftest; Test not passed, because of hardware overvoltage protection	Selftest.Error; Bit6 = 1	ErrLev0	
37	08	Error selftest; Corrupted production data in EEPROM detected	Selftest.Error; Bit7 = 1	ErrLev0	
38		**Warning selftest**			
38	01	Warning selftest; Error in Watchdog circuit, limited operation possible	Selftest.Warning; Bit0 = 1	ErrLev0	
38	02	Warning selftest; Watchdog not tested, because low voltage at DC-Link	Selftest.Warning; Bit1 = 1	ErrLev0	
38	03	Warning selftest; Corrupted user data (NVRam) in EEPROM detected	Selftest.Warning; Bit2 = 1	ErrLev6	
38	04	Warning selftest; Corrupted error history data in EEPROM detected	Selftest.Warning; Bit3 = 1	n.a.	
39		**Status selftest**			
39	01	Status selftest; DCLink selftest in progress	Selftest.Status = 1	StatLev1	
39	02	Status selftest; Watchdog selftest in progress	Selftest.Status = 2	StatLev0	
39	03	Status selftest; PowerStage selftest in progress	Selftest.Status = 3	StatLev1	

40		**Error motor control**			
40	01	Error motor control; Invalid value at .RPMSetPoint	MotorControl.Status; Bit0 = 1	ErrLev6	
40	02	Error motor control; Invalid value at .SpeedKP	MotorControl.Status; Bit1 = 1	ErrLev6	
40	03	Error motor control; Invalid value at .SpeedKI	MotorControl.Status; Bit2 = 1	ErrLev6	
40	04	Error motor control; Invalid value at .TorqueFF	MotorControl.Status; Bit3 = 1	ErrLev6	
40	05	Error motor control; Invalid value at .UserTorqueLimit	MotorControl.Status; Bit4 = 1	ErrLev6	
40	06	Error motor control; Invalid value at .UserCurrLimit	MotorControl.Status; Bit5 = 1	ErrLev6	
40	10	Error motor control; Invalid value at .EncErrThreshold	MotorControl.Status; Bit9 = 1	ErrLev6	
40	11	Error motor control; One encoder line disconnected	MotorControl.Status; Bit10 = 1	ErrLev2	
40	12	Error motor control; Invalid value at .PartLoadReduc	MotorControl.Status; Bit11 = 1	ErrLev6	
40	13	Error motor control; PCB temperature dependent current derating active	MotorControl.Status; Bit12 = 1	ErrLev6	
40	14	Error motor control; Invalid value at .MagCurrBoost	MotorControl.Status; Bit13 = 1	ErrLev6	
41		**Error motor**			
41	01	Error motor; Config error	Motor.Status; Bit0…Bit22 = 1	ErrLev2	
41	02	Error motor; ReInit in progress	Motor.Status; Bit23 = 1	StatLev3	
42		**Error NVMem**			
42	01	Error NVMem; The NVMem was restored to a previouse state	NVMem.Status; Bit0 = 1	ErrLev0	
42	02	Error NVMem; The NVMem checksums are not correct	NVMem.Status; Bit1 = 1	ErrLev0	
42	03	Error NVMem; The reset routine could not access the NV memory	NVMem.Status; Bit2 = 1	ErrLev0	
43		**Error CAN**			
43	01	Error CAN; CAN driver error	CAN[0].DriverError = 1	ErrLev0	Blink code of red LED: f = 1 Hz (on = 800ms, off = 200ms)
43	02	Error CAN; CAN bus off mode	CAN[0].BussOff = 1	ErrLev0	Blink code of red LED: f = 1 Hz (on = 200ms, off = 800ms)
43	03	Error CAN; CAN bus overflow	CAN[0].Overflow = 1	ErrLev0	
50		**Error CAN timeout**			
50	01	Error CAN timeout, SYNC	No SYNC for t > parameter	ErrLev0	
50	02	Error CAN timeout, RPDO1	No RPDO1 for t > parameter	ErrLev0	
50	03	Error CAN timeout, RHEART1	No RHEART1 for t > parameter	ErrLev0	
51		**Error power stage**			
51	01	Error power stage; Min. temperature	PowerStage.Temp < DeviceInfo.MinTemp	ErrLev0	
52		**Error motor**			
52	01	Error motor; Overtemperature	Motor.ActTemp > parameter	ErrLev2	

53		**Error loop time**			
53	01	Error loop time (level 1)	OS.ExecTime > OS.ExecTimeOut	ErrLev6	
53	02	Error loop time (level 2)	OS.ExecTime > 2 * OS.ExecTimeOut	ErrLev0	
54		**Error V_DC_Link**			
54	01	Error V_DC_Link; Undervoltage (level 1)	V_DC_Link.Volt < parameter for t > 3s	ErrLev2	
54	02	Error V_DC_Link; Undervoltage (level 2)	V_DC_Link.Volt < DeviceInfo.MinVolt for t > 3s	ErrLev0	